

REMARKS

Amendments to the Claims:

Claims 1-21 were withdrawn by the Examiner as being directed to a non-elected species and/or invention. Accordingly, claims 1-21 have been canceled.

Claim 22 has been amended to include elements and/or limitations from claims 27-29, and to delete verbiage so as to make the claim clearer. Claims 27-29 have been canceled as being redundant in view of the amendments to claim 22. Claims 26, 30 and 31 have been amended as necessitated by the amendments to claim 22. Claim 32 has been amended to include elements and/or limitations found in claims 27-29 and to delete verbiage so as to make the claim clearer.

New claims 33-38 have been added and are fully supported by the written specification and drawing figures. No new matter has been added.

Rejection of Claims Under 35 U.S.C. § 102:

Claims 22, 23, and 25-32 have been rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication No. JP09208086.

The Applicants contend that the amendments to claims 22 and 32 as indicated herein above overcome the rejection of claims under 35 U.S.C. 102(b).

The Applicants note that, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference ... [and that the] identical invention must be shown in as complete detail as is contained in the . . . claim ... [and that the] elements must be arranged as required by the claim” (MPEP 2131.)

In regard to claim 22, that claim has been amended to now include the following elements and/or limitations:

a set of computer executable instructions operatively resident within the memory device and executable by the processor, the set of computer executable instructions adapted to cause the processor to compute:

a plurality of ratios, wherein each ratio is a ratio of a respective change in the quantitative characteristic to a respective corresponding number of media sheets dispensed from the stack; and.

an estimated number of media sheets remaining in the stack based on the ratios.

1 The Applicants contend that JP09208086 does not teach or suggest the above
2 elements and/or limitations of claim 22, and in particular, JP09208086 does not teach or
3 suggest *calculating a plurality of ratios and calculating an estimated number of media*
sheets remaining in the stack based on the plurality of ratios.

4 On the contrary, JP09208086 discloses at most that, “the variation of the paper
5 sheet deck height ...is measured ...[and the] thickness per sheet is calculated ...[and the]
6 remaining amount of paper is calculated” (JP09208086 abstract translation).
7 That is, in accordance with JP09208086, the number of sheets dispensed is counted,
8 and the height of the stack is measured, thereby creating a single ratio, from which the
remaining number of sheets in the stack is estimated.

9 The Applicants therefore contend that each and every element of claim 22 is not
10 disclosed by JP09208086, as is required for a finding of anticipation. That is, each and
11 every element as set forth in claim 22 is not either expressly or inherently described in
12 JP09208086, and the identical invention is not shown in JP09208086 in as complete
13 detail as is contained in claim 22. Claim 22 is therefore not anticipated by JP09208086.

14 Accordingly, the Applicants respectfully request that the rejection of claim 22
15 under 35 U.S.C. 102(b) be withdrawn.

16 In regard to claims 23, 25, 26, 30, and 31, those claims depend from claim 22
17 and are therefore not anticipated by JP09208086 at least for the reasons set forth above
18 with respect to claim 22.

19 The Examiner also states, in regard to claims 30 and 31, that JP09208086 does
20 not disclose the calculation of a mean value or a median value for the plurality of ratios,
21 but that mean values and median values are numbers obtained from a set of quantities
22 by some well established mathematical method such as probability or statistics. The
23 Examiner contends that the processor (29) of the apparatus of JP09208086 is therefore
24 clearly capable of calculating a mean value and a median value for the plurality of ratios.

25 The Applicants respectfully disagree with the Examiner’s contention that the
26 apparatus of JP09208086 is clearly capable of calculating a mean value and a median
27 value for a plurality of ratios. There is no evidence whatsoever that JP09208086
28 discloses calculating a mean value or a median value for a plurality of ratios as is
29 required by the Applicants’ claim 22. Moreover, even if JP09208086 did disclose such a
30 calculation (which it does not), JP09208086 still does not disclose *calculating an*
estimated number of media sheets remaining in the stack based on the mean value or
median value, as is required by claims 30 and 31, respectively.

1 In regard to claims 27-29, those claims have been canceled, and the rejections of
2 those claims are now moot.

3 In regard to claim 32, that claim has been amended to now include the following
4 elements and/or limitations:

5 *a means for computing:*

6 *a plurality of ratios, wherein each ratio is a ratio of a respective change in*
7 *the quantitative characteristic to a respective corresponding number of media*
8 *sheets dispensed from the stack; and,*

9 *an estimated number of media sheets remaining in the stack based on*
10 *the ratios.*

11 These elements are substantially similar to the elements and/or limitations added to
12 claim 22 as discussed herein above. The Applicants therefore contend, for the reasons
13 set forth above with respect to claim 22, that the above elements and/or limitations of
14 claim 32 are not disclosed by JP0920886. That is, each and every element as set forth
15 in claim 32 is *not* either expressly or inherently described in JP09208086, and that the
16 identical invention is *not* shown in JP09208086 in as complete detail as is contained in
17 claim 32, and that claim 32 is therefore *not* anticipated by JP09208086.

18 Accordingly, the Applicants respectfully request that the rejection of claim 32
19 under 35 U.S.C. 102(b) be withdrawn.

20 Rejection of Claims Under 35 U.S.C. § 103:

21 Claim 24 has been rejected under 35 U.S.C. 103(a) as being unpatentable over
22 JP09208086 in view of Japanese Patent No. JP402144351.

23 The Applicants contend that the amendments to claim 22 as indicated herein
24 above overcome the rejection of claim 24 under 35 U.S.C. 103(a).

25 The Applicants note that, “[in order to] establish a *prima facie* case of
obviousness, three basic criteria must be met. First, there must be some suggestion
or motivation, either in the references themselves or in the knowledge generally
available to one of ordinary skill in the art, to modify the reference or to combine
reference teachings. Second, there must be a reasonable expectation of success.
Finally, the prior art reference (or references when combined) must teach or suggest
all the claimed limitations.” (MPEP 2142.)

As noted above with respect to claim 22, JP09208086 does not disclose all of
the elements and/or limitations of claim 22, and therefore, JP09208086 does not teach

1 or suggest all of the claimed limitations of claim 22. The Applicants similarly contend
2 that JP402144351 also does not teach or suggest all of the claimed limitations of
3 claim 22. On the contrary, at most JP402144351 discloses, "...from a change in a
4 pressure sensor output before and after the feed of the proper number of sheets and the
5 number of fed sheets, an amount of remaining sheets is calculated." (JP402144351
6 abstract translation.) That is, JP402144351 does not disclose *calculating a plurality of
7 ratios and calculating an estimated number of media sheets remaining in the stack
based on the plurality of ratios* as is required by claim 22. Moreover, the references
8 JP09208086 and JP402144351, even when combined, still do not teach all of the
claimed limitations of claim 22.

9 Claim 24 includes all of the limitations of claim 22 because claim 24 depends
10 from claim 22. Therefore, claim 24 is not obvious in view of JP09208086 and
11 JP402144351 because neither of those references, either individually or when
combined, teach or suggest all of the claim limitations of claim 24.

12 The Applicants note further that, "[i]f an independent claim is nonobvious under
13 35 U.S.C. 103, then any claim depending therefrom is nonobvious." (MPEP 2143.03.)
14 The Applicants also note that claim 22, from which claim 24 depends, has not been
15 rejected as being obvious. The Applicants moreover contend that claim 22 is
16 nonobvious in view of the references cited by the Examiner. Thus, the Applicants assert
that claim 24 is nonobvious *per se* because it depends from a nonobvious claim.

17 Accordingly, the Applicants respectfully request that the rejection of claim 24
18 under 35 U.S.C. 103(a) be withdrawn.
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SUMMARY

The Applicants believe that this communication constitutes a full and complete response to the Office action mailed 10/22/2004, and the Applicants furthermore request timely allowance of claims 22-26, and 30-38.

Respectfully submitted,

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